Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Canceled).

Claim 2 (Currently amended): An extruded tantalum billet having a cylindrical shape with an aspect ratio L/D of greater than 0.5 and having a diameter of 2 ½ inches or greater, wherein said extruded tantalum billet is ingot-derived and has a purity of at least about 99.99% and wherein said extruded tantalum billet has a substantially uniform grain size after extrusion ~~and before any further thermomechanical processing~~.

Claim 3 (Previously presented): The extruded tantalum billet of claim 2, wherein said extruded tantalum billet has an average grain size of about 150 microns or less.

Claim 4 (Previously presented): The extruded tantalum billet of claim 2, wherein said extruded tantalum billet has an average grain size of about 100 microns or less.

Claim 5 (Previously presented): The extruded tantalum billet of claim 2, wherein said extruded tantalum billet has an average grain size of about 50 microns or less.

Claim 6 (Previously presented): The extruded tantalum billet of claim 2, wherein said extruded tantalum billet has an average grain size of from about 25 microns to about 100 microns.

Claim 7 (Original): The extruded tantalum billet of claim 2, having a purity of at least about 99.995%.

Claim 8 (Original): The extruded tantalum billet of claim 2, wherein said tantalum billet

is fully recrystallized.

Claim 9 (Canceled)

Claim 10 (Original): The extruded tantalum billet of claim 2, wherein said tantalum billet is about 98% or more recrystallized.

Claim 11 (Original): The extruded tantalum billet of claim 2, wherein said tantalum billet is about 80% or more recrystallized.

Claim 12 (Original): The extruded tantalum billet of claim 2, having a purity of from about 99.995% to about 99.999%

Claim 13 (Original): The extruded tantalum billet of claim 2, further comprising at least one alloy material.

Claims 14-17 (Canceled)

Claim 18 (Currently amended): A process for making the extruded tantalum billet of claim 2 comprising extruding a tantalum ingot having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% at a sufficient temperature and for a sufficient time to at least partially recrystallize the tantalum billet during extrusion and form said extruded tantalum billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 19 (Original): The process of claim 18, wherein said sufficient temperature is from about 1200 °F to about 2950 °F.

Claim 20 (Original): The process of claim 18, wherein said temperature is uniform throughout the extrusion process.

Claim 21 (Original): The process of claim 18, further comprising the step of water

quenching the extruded tantalum billet after extrusion.

Claim 22 (Original): The process of claim 18, further comprising machine cleaning the extruded tantalum billet.

Claim 23 (Currently amended): A process for making the extruded tantalum billet of claim 2, comprising extruding a starting tantalum billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% at a sufficient temperature and for a sufficient time to at least partially recrystallize the tantalum billet to form said extruded tantalum billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 24 (Original): The process of claim 23, wherein said sufficient temperature is from about 1200 °F to about 2950 °F.

Claim 25 (Original): The process of claim 23, wherein said temperature is uniform throughout the extrusion process.

Claim 26 (Original): The process of claim 23, further comprising the step of water quenching the extruded tantalum billet after extrusion.

Claim 27 (Original): The process of claim 23, further comprising machine cleaning the extruded tantalum billet.

Claim 28 (Currently amended): A process for making the extruded tantalum billet of claim 2, comprising cutting an ingot into at least one starting billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% and either applying a protective coating on said starting billet or placing said starting billet in a can;

extruding the starting billet at a sufficient temperature and for a sufficient time to

at least partially recrystallize the tantalum billet and to form said extruded tantalum billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 29 (Original): The process of claim 28, wherein said sufficient temperature is from about 1200 °F to about 2950 °F.

Claim 30 (Original): The process of claim 28, wherein said temperature is uniform throughout the extrusion process.

Claim 31 (Original): The process of claim 28, further comprising the step of water quenching the extruded tantalum billet after extrusion.

Claim 32 (Original): The process of claim 28, further comprising machine cleaning the extruded tantalum billet.

Claim 33 (Original): The process of claim 28, wherein said ingot is obtained by the electron beam melting of a high purity tantalum powder feedstock.

Claim 34 (Original): The process of claim 28, wherein said protective coating or can is removed after said extruding.

Claim 35 (Original): The process of claim 34, wherein said protective coating is removed by acid washing or machine cleaning, or both.

Claim 36 (Canceled)

Claim 37 (Currently amended): An extruded niobium billet having a cylindrical shape with an aspect ratio L/D of greater than 0.5 and having a diameter of 2 ½ inches or greater, wherein said extruded niobium billet is ingot-derived and has a purity of at least about 99.99% and wherein said extruded niobium billet has a substantially uniform grain size after extrusion ~~and before any further thermomechanical processing~~.

Claim 38 (Previously presented): The extruded niobium billet of claim 37, wherein said extruded niobium billet has an average grain size of about 150 microns or less.

Claim 39 (Previously presented): The extruded niobium billet of claim 37, wherein said extruded niobium billet has an average grain size of about 100 microns or less.

Claim 40 (Previously presented): The extruded niobium billet of claim 37, wherein said extruded niobium billet has an average grain size of about 50 microns or less.

Claim 41 (Previously presented): The extruded niobium billet of claim 37, wherein said extruded niobium billet has an average grain size of from about 25 microns to about 100 microns.

Claim 42 (Original): The extruded niobium billet of claim 37, having a purity of at least about 99.995%.

Claim 43 (Original): The extruded niobium billet of claim 37, wherein said niobium billet is fully recrystallized.

Claim 44 (Canceled)

Claim 45 (Original): The extruded niobium billet of claim 37, wherein said niobium billet is about 98% or more recrystallized.

Claim 46 (Original): The extruded niobium billet of claim 37, wherein said niobium billet is about 80% or more recrystallized.

Claim 47 (Original): The extruded niobium billet of claim 37, having a purity of from about 99.995% to about 99.999%

Claim 48 (Original): The extruded niobium billet of claim 37, further comprising at least one alloy material.

Claims 49-52 (Canceled)

Claim 53 (Currently amended): A process for making the extruded niobium billet of claim 37 comprising extruding a niobium ingot having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% to form said extruded niobium billet, wherein said extruding is at a sufficient temperature and for a sufficient time to at least partially recrystallize the niobium billet during extrusion and said extruding forms said extruded niobium billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 54 (Original): The process of claim 53, wherein said sufficient temperature is from about 1000 °F to about 2650 °F.

Claim 55 (Original): The process of claim 53, wherein said temperature is uniform throughout the extrusion process.

Claim 56 (Original): The process of claim 53, further comprising the step of water quenching the extruded niobium billet after extrusion.

Claim 57 (Original): The process of claim 53, further comprising machine cleaning the extruded niobium billet.

Claim 58 (Currently amended): A process for making the extruded niobium billet of claim 37, comprising extruding a starting niobium billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% at a sufficient temperature and for a sufficient time to at least partially recrystallize the niobium billet ~~to~~ and form said extruded niobium billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 59 (Original): The process of claim 58, wherein said sufficient temperature is from about 1000 °F to about 2650 °F.

Claim 60 (Original): The process of claim 58, wherein said temperature is uniform throughout the extrusion process.

Claim 61 (Original): The process of claim 58, further comprising the step of water quenching the extruded niobium billet after extrusion.

Claim 62 (Original): The process of claim 58, further comprising machine cleaning the extruded niobium billet.

Claim 63 (Currently amended): A process for making the extruded niobium billet of claim 37, comprising cutting an ingot into at least one starting billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% and either applying a protective coating on said starting billet or placing said starting billet in a can;

extruding the starting billet at a sufficient temperature and for a sufficient time to at least partially recrystallize the niobium billet and ~~to~~ form said extruded niobium billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 64 (Previously presented): The process of claim 63, wherein said sufficient temperature is from about 1000 °F to about 2650 °F.

Claim 65 (Original): The process of claim 63, wherein said temperature is uniform throughout the extrusion process.

Claim 66 (Original): The process of claim 63, further comprising the step of water quenching the extruded niobium billet after extrusion.

Claim 67 (Original): The process of claim 63, further comprising machine cleaning the

extruded niobium billet.

Claim 68 (Original): The process of claim 63, wherein said ingot is obtained by the electron beam melting of a high purity niobium powder feedstock.

Claim 69 (Original): The process of claim 63, wherein said protective coating or can is removed after said extruding.

Claim 70 (Original): The process of claim 69, wherein said protective coating is removed by acid washing or machine cleaning, or both.

Claim 71 (Original): The process of claim 18, further comprising annealing said extruded tantalum billet.

Claim 72 (Original): The process of claim 71, wherein said annealing occurs at a temperature and for a time sufficient to at least partially recrystallize the extruded tantalum billet during annealing.

Claim 73 (Previously presented): The process of claim 71, wherein said annealing occurs at a temperature of from about 1742°F to about 2102°F for about 2 hours.

Claim 74 (Original): The process of claim 23, further comprising annealing said extruded tantalum billet.

Claim 75 (Original): The process of claim 74, wherein said annealing occurs at a temperature and for a time sufficient to at least partially recrystallize the extruded tantalum billet during annealing.

Claim 76 (Previously presented): The process of claim 74, wherein said annealing occurs at a temperature of from about 1742°F to about 2102°F for about 2 hours.

Claim 77 (Original): The process of claim 28, further comprising annealing said extruded tantalum billet.

Claim 78 (Original): The process of claim 77, wherein said annealing occurs at a temperature and for a time sufficient to at least partially recrystallize the extruded tantalum billet during annealing.

Claim 79 (Previously presented): The process of claim 77, wherein said annealing occurs at a temperature of from about 1742°F to about 2102°F for about 2 hours.

Claim 80 (Original): The process of claim 53, further comprising annealing said extruded niobium billet.

Claim 81 (Original): The process of claim 80, wherein said annealing occurs at a temperature and for a time sufficient to at least partially recrystallize the extruded niobium billet during annealing.

Claim 82 (Previously presented): The process of claim 80, wherein said annealing occurs at a temperature of from about 1742°F to about 2102°F for about 2 hours.

Claim 83 (Original): The process of claim 58, further comprising annealing said extruded niobium billet.

Claim 84 (Original): The process of claim 83, wherein said annealing occurs at a temperature and for a time sufficient to at least partially recrystallize the extruded niobium billet during annealing.

Claim 85 (Previously presented): The process of claim 83, wherein said annealing occurs at a temperature of from about 1742°F to about 2102°F for about 2 hours.

Claim 86 (Original): The process of claim 63, further comprising annealing said extruded niobium billet.

Claim 87 (Original): The process of claim 86, wherein said annealing occurs at a temperature and for a time sufficient to at least partially recrystallize the extruded niobium billet

during annealing.

Claim 88 (Previously presented): The process of claim 86, wherein said annealing occurs at a temperature of from about 1742°F to about 2102°F for about 2 hours.

Claim 89 (Currently amended): A process for making the extruded tantalum billet of claim 2, comprising extruding a tantalum ingot having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% to form an extruded tantalum billet and then annealing said extruded tantalum billet at a sufficient temperature and for a sufficient time to at least partially recrystallize the extruded tantalum billet and form said extruded tantalum billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 90 (Currently amended): A process for making the extruded tantalum billet of claim 2, comprising extruding a starting tantalum billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% to form said extruded tantalum billet and then annealing said extruded tantalum billet for a sufficient time and for a sufficient temperature to at least partially recrystallize the extruded tantalum billet and form said extruded tantalum billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 91 (Currently amended): A process for making the extruded tantalum billet of claim 2, comprising cutting an ingot into at least one starting billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% and either applying a protective coating on said starting billet or placing said starting billet in a can;

extruding the starting billet to form said extruded tantalum billet and then annealing said extruded tantalum billet at a sufficient temperature and for a sufficient time to at least partially recrystallize the extruded tantalum billet and form said extruded tantalum billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 92 (Currently amended): A process for making the extruded niobium billet of claim 37, comprising extruding a niobium ingot having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% to form an extruded niobium billet and then annealing said extruded niobium billet at a sufficient temperature and for a sufficient time to at least partially recrystallize the extruded niobium billet and form said extruded niobium billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 93 (Currently amended): A process for making the extruded niobium billet of claim 37, comprising extruding a starting niobium billet having a cylindrical shape with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% to form said extruded niobium billet and then annealing said extruded niobium billet for a sufficient time and for a sufficient temperature to at least partially recrystallize the extruded niobium billet and form said extruded niobium billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 94 (Currently amended): A process for making the extruded niobium billet of claim 37, comprising cutting an ingot into at least one starting billet having a cylindrical shape

with a diameter of 6 inches to about 14 inches and having a metal purity of at least 99.99% and either applying a protective coating on said starting billet or placing said starting billet in a can;

extruding the starting billet to form said extruded niobium billet and then annealing said extruded niobium billet at a sufficient temperature and for a sufficient time to at least partially recrystallize the extruded niobium billet and form said extruded niobium billet having a cylindrical shape with an aspect ratio L/D greater than 0.5 with a reduced diameter of 2 ½ inches or greater and a substantially uniform grain size from said extruding.

Claim 95 (Currently amended): The extruded tantalum billet of claim 2, wherein said extruded tantalum billet has an aspect ratio of longitudinal grains that do not exceed 20.

Claim 96 (New): The extruded tantalum billet of claim 2, wherein said extruded tantalum billet has a diameter of at least 3 ½ inches.

Claim 97 (New): The extruded niobium billet of claim 37, wherein said extruded niobium billet has a diameter of at least 3 ½ inches.

Claim 98 (New): The extruded tantalum billet of claim 2, having a grain size about the cross-section of the extruded tantalum billet that vary uniformly in accordance to a normal or Poissons distribution.

Claim 99 (New): The extruded tantalum billet of claim 98, wherein said grain size does not exhibit a duplex microstructure as evidenced by a bimodal grain size distribution.

Claim 100 (New): The extruded niobium billet of claim 37, having a grain size about the cross-section of the extruded niobium billet that vary uniformly in accordance to a normal or Poissons distribution.

Claim 101 (New): The extruded niobium billet of claim 100, wherein said grain size does not exhibit a duplex microstructure as evidenced by a bimodal grain size distribution.